

4-18-88

Granite City TRI/FS Mtg.

Draft RI Report

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Ken Miller	IEPA	217/785-8384

Connie Sullinger
Dave Dolan

IEPA via teleconference
U.S. EPA 312-



Project Schedule 1 - Maintain Current Project Schedule

<u>Task</u>	<u>Duration(day)</u>	<u>Predecessor</u>	<u>Scheduled Date</u>
1. Project Meeting	-	-	4/18/88-4/19/88
2. Submittal of Final RI Report	30	1	5/19/88
3. Final Agency Action on Final RI Report	30	2	6/20/88
4. Presentation of Remedial Response Objectives and Identified Remedial Alternatives	15	3	7/9/88 ²⁰
5. Presentation of Initial Screening of Alternatives	75	3	9/1/88
6. Laboratory Studies	To be negotiated if necessary		
7. Submittal of draft Preliminary FS Report	200	3	11/4/88 2/16/89 Shift
8. Final Agency Action on Draft Preliminary FS Report	30	7	2/3/89
9. Submittal of Final Preliminary FS Report	30	8	3/6/89
10. Final Agency Action on Final Preliminary FS Report	30	9	4/4/89
11. Selection of Remedial Alternative by USEPA and IEPA	30	10	5/4/89
12. Submittal of Conceptual Design and Final Report	45	10 11	6/19/89

:57:22

HENRY T. APPLETON, Ph.D.
SENIOR SCIENTIST

BACKGROUND

Dr. Appleton joined O'Brien & Gere in 1987 following ten years of research in biochemical toxicology and risk assessment, most notably with the United States Environmental Protection Agency. He has twice received a Certificate of Award for Special Achievement from that agency.

EDUCATION

State of New York College of Environmental Science and Forestry, 1971,
BS/Biochemistry
State of New York College of Environmental Science and Forestry, 1976,
Ph.D./Toxicology

PROFESSIONAL AFFILIATIONS

American Association for the Advancement of Science
American Chemical Society
Sigma Xi
American Fisheries Society
American Society of Ichthyologists and Herpetologists

EXPERIENCE

Dr. Appleton is a regulatory toxicologist with research experience in the mammalian biochemical toxicology of insecticides and other toxic substances, as well as in determining the aquatic environmental fate and effects of a variety of pollutant chemicals. He has provided technical support to the Test Rules Development Branch, Office of Toxic Substances, U.S. Environmental Protection Agency for toxicological testing activities under the Toxic Substances Control Act (TSCA), and has managed teams of staff scientists in preparation of comprehensive evaluations of exposure and effects data on potential test rule chemicals.

Dr. Appleton has written summaries on classes of toxic substances of concern to the pre-manufacture notice review process of USEPA, and has evaluated and validated a wide variety of pesticide toxicology data for the USEPA. He has also audited carcinogenicity data for NTP.

During his employment in the USEPA Office of Toxic Substances, Dr. Appleton managed the preparation of Chemical Hazard Information Profiles (CHIPs) and served as technical reviewer/editor for more than sixty such profiles. He interacted extensively with the chemical industry and federal agencies in the exchange of exposure and toxicological test data and assessed the toxicological effects and metabolism of a tris-chloroalkyl phosphate flame retardant, its structural analogs, and metabolites for potential regulatory activity. He consulted with numerous scientists on issues related to carcinogenicity, neurotoxicity, and metabolism of selected chemicals.

For the USEPA Office of Pesticide Programs, Dr. Appleton reviewed pesticide environmental fate data used in support of risk assessment and regulatory activities, and met with industry

concerning registration data requirements. He also estimated terrestrial and aquatic environmental concentrations of pesticides using various modeling techniques.

Dr. Appleton has also served as contributing scientist to numerous Health and Environmental Effects Profiles on toxic chemicals, prepared for the Office of Solid Waste, USEPA. Chemicals include chlorpyrifos, methyl parathion, carbofuran, atrazine, trifluralin, pendimethalin, epichlorohydrin, cyclohexanone and vanadium pentoxide.

PUBLICATIONS

Appleton, H.T. and T. Nakatsugawa. 1972. **Paraoxon deethylation in the metabolism of parathion**, *Pest. Biochem. Physiol.*, 2: 286.

Appleton, H.T. and T. Nakatsugawa. 1972. **The metabolism of paraoxon**, (Presented at the National Meeting of the Entomological Society of America, Montreal, Quebec).

Sikka, H. and H. Appleton. 1977. **Uptake, distribution and metabolism of the dimethylamine salt of 2, 4-D in fish**. *J. Agr. Food Chem.*, 25: 1030.

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Appleton, H. and H. Sikka. 1980. **Accumulation, elimination and metabolism of dichlorobenzidine in the bluegill sunfish**. *Environ. Sci. and Tech.*, 14:50.

Appleton, H. and H. Sikka. 1980. **Ambient water quality criteria for dichlorobenzidine, mammalian toxicology and human health effects**. United States Environmental Protection Agency, Washington, DC 20460. EPA 440/5-80-040.

Sikka, H., S. Banerjee, E. Pack and H. Appleton. 1980. **The environmental fate of TNT and RDX**. U.S. Army, Frederick, MD. Final Report, DAMD 17-77-C-7026. March.

Sikka, H., E. Pack, H. Appleton, R. Hsu, and D. Cunningham. 1982. **Environmental fate, effects, and health hazards of fenac**. U.S. Army Corps of Engineers, Vicksburg, MS 39180. Technical Report A-82-2.

Appleton, H. 1987. **A review of potential health effects of halogenated carbonyl compounds** (manuscript in preparation).

GOVERNMENT REPORTS

Chloroneb Registration Standard. September 1980. Environmental fate and exposure profile. U.S. Environmental Protection Agency, Washington, DC.

Terrazole Registration Standard. September 1980. Environmental fate and exposure profile.

4-Aminopyridine Registration Standard. September 1980. Environmental fate and exposure profile.

Guidelines for Registering Pesticides in the United States, Subpart N, Environmental Fate, section 163:165-3: Data Requirements for pesticide accumulation studies in fish. March 1981. U.S. Environmental Protection Agency, Washington, DC 20460.

Chemical Hazard Information Profile: Brilliant Blue FCF. December 1981. Assessment Division, Office of Toxic Substances, U.S. EPA.

Chemical Hazard Information Profile: Ethylene Oxide. March 1982.

Appleton, H.T., R.A. Jacobson, P.H. Howard and J. Santodonato. June 1985. **Technical Support Document for 9,10-Anthraquinone**. Test Rules Development Branch, Office of Toxic Substances, U.S. EPA, Washington, DC.

Bosch, S.J., R.T. Williams, R.A. Jacobson, S.M. Beals, H.T. Appleton, P.H. Howard and J. Santodonato. June 1985. **Technical Support Document for 2-Mercaptobenzothiazoles**. Test Rules Development Branch, Office of Toxic Substances, U.S. EPA, Washington, DC.

Beals, S.M., J.P. Robinson, H.T. Appleton, P.H. Howard and J. Santodonato. October 1985. **Technical Support Document (draft) for 3,4-Dichlorobenzotrifluoride**. Test Rules Development Branch, Office of Toxic Substances, U.S. EPA, Washington, DC.

Jackson, J., S.M. Beals, H.T. Appleton, P.H. Howard and J. Santodonato. November 1985. **Technical Support Document for Tetrabromobisphenol A**. Test Rules Development Branch, Office of Toxic Substances, U.S. EPA, Washington, DC.

Robinson, J.P., S.M. Beals, H.T. Appleton, P.H. Howard and J. Santodonato. November 1985. **Technical Support Document for Methylcyclopentane**. Test Rules Development Branch, Office of Toxic Substances, U.S. EPA, Washington, DC.

Beals, S.M., J.P. Robinson, H.T. Appleton, P.H. Howard and J. Santodonato. April 1986. **Technical Support Document Draft for Cyclohexane**. Test Rules Development Branch, Office of Toxic Substances, U.S. EPA, Washington, DC.

APPROXIMATE SCALE

4IN

0

400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

**CITY OF
GRANITE CITY,
ILLINOIS
MADISON COUNTY**

**COMMUNITY-PANEL NUMBER
170443 0004 A**

PAGE 4 OF 5

SEE MAP INDEX FOR PAGES 1, 2, 3, 4, 5

EFFECTIVE

JUNE 1, 1978



**U.S. DEPARTMENT OF COMMERCE
NATIONAL FLOOD INSURANCE PROGRAM**

FLY TO MAP

50' ...
 100 Year Flood Boundary
 Zone Designations* With
 Date of Identification
 08 12/2/74
 100 Year Flood Boundary
 500 Year Flood Boundary



Base Flood Elevation Line
 With Elevation in Feet**

513

Base Flood Elevation in Feet
 Where Uniform Within Zone**

REL 987

Elevation Reference Mark

RM7x

River Mile

0M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1 A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood, or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile, or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1 V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only. It does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION
 NOVEMBER 16 1973

CONVERSION TO REGULAR PROGRAM
 JULY 1 1978

PROPER STREET

AVENUE

AVENUE

AVENUE

KATE

STREET

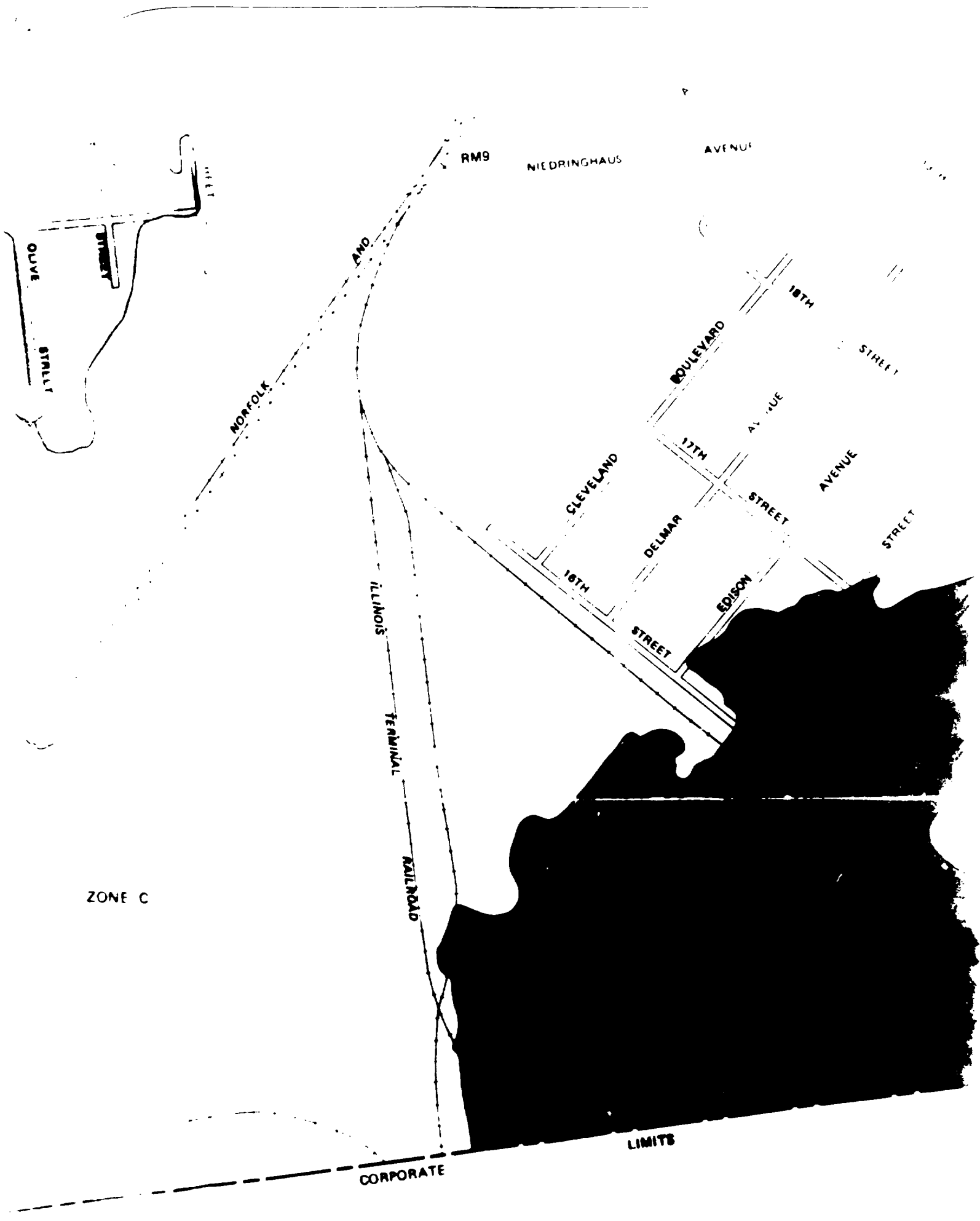
STREET

STREET

STREET

AVENUE

LINCOLN



RM9

NIEDRINGHAUS

AVENUE

AND

NORFOLK

QUVE

STREET

18TH

STREET

BOULEVARD

AL

AVENUE

17TH

STREET

CLEVELAND

DELMAR

EDISON

STREET

16TH

STREET

ILLINOIS

TERMINAL

RAILROAD

ZONE C

LIMITS

CORPORATE

handed
out at 7/18/88
meeting

NL GRANITE CITY
COMPARISON OF LEAD TO OTHER METALS
OBSERVED IN WASTE PILE UPPER STRATA

Systemic Toxicity → *pile, upper strata, slag*
pile only

Parameter	MCL (1)	MCL _{Ph} (2) MCL _i	Max. Conc. Ph (3) Max. Conc. i	Avg. Conc. Ph (3) Avg. Conc. i	Margin (4)
Pb	0.05	-	-	-	-
Sb	0.003	16.7	43.6	58.6	2.69
As	0.05	1.0	23.3	78.6	23
Ba	1	0.05	609.2	618.4	12,000
Cd	0.010	5.0	435.9	1404	87
Cu	1 (0.02)	0.05 (2.5)	16.4	54.0	6.6
Cr	0.05	1.0	7750.	12400.	7800
Fe	0.3	0.17	0.83	3.0	4.9
Mn	0.05	1.0	121.8	281.1	120
Hg	0.002 (0.0005)	25 (100)	174,400	290,000	1700
Ni	(1.0)	0.05	659.6	1714	13,000
Se	0.01	5.0	279,000	138,400	56,000
Ag	0.05 (0.005)	1.0 (10.0)	11,530	14,240	1200
Zn	5	0.01	20.2	60.1	2000

used max

Known Human
Gg A₁ Cavehugans by Inhalation

- (1) Values expressed in mg/l
- (2) Ratio of lead MCL to MCL of other metal
- (3) Ratio of reported concentration of lead to reported concentration of other metal
- (4) A value greater than 1.0 means that the lead concentration relative to the MCL for lead is higher than the other metals concentration in soil relative to its MCL.